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The Commonwealth of Massachusetts

LEGISLATIVE RESEARCH COUNCIL

Report Relative to

RAILROAD SERVICE FROM BOSTON

TO BROCKTON AND CAPE COD

*For Summary, See  
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# The Commonwealth of Massachusetts

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## ORDER AUTHORIZING STUDY

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(Senate, No. 789 of 1974)

**Ordered,** That the Legislative Research Council make an investigation and study relative to the feasibility of providing rail transportation between the city of Boston and Cape Cod via the city of Brockton, such investigation and study to include but not be limited to, the following: (a) the amount of money needed to rehabilitate the present right-of-ways, and (b) the existing rapid transit service from the city of Boston to the city of Quincy and the utilization of such service in a rail connection from said city of Quincy through the city of Brockton and ending at Cape Cod. Said council may file its statistical and factual report hereunder with the clerk of the senate from time to time, but not later than the last Wednesday of March, nineteen hundred and seventy-four.

*Adopted:*

*By the Senate, January 10, 1974*

*By the House of Representatives,  
in concurrence, January 14, 1974*

# CONTENTS

	Page
Order Authorizing Study .....	3
Letter of Transmittal to the Senate and House of Representatives .....	5
Letter of Transmittal to the Legislative Research Council .....	6
Summary of Report .....	7
<b>CHAPTER I. INTRODUCTION</b> .....	<b>12</b>
Origin and Scope of the Report .....	12
Old Colony Line Operations .....	12
Commuter Patterns .....	15
Past Studies, Recommendations, and Implementation .....	16
Freight Service .....	18
<b>CHAPTER II. PRESENT TRANSPORTATION SERVICES</b> .....	<b>18</b>
Introduction .....	18
Commutation Patterns .....	19
Bus Services .....	21
Rapid Transit .....	23
<b>CHAPTER III. AREA POPULATION AND PROJECTIONS</b> .....	<b>23</b>
<b>CHAPTER IV. PHYSICAL PLANT AND EQUIPMENT COSTS</b> .....	<b>25</b>
Track Conditions .....	25
The Englund Report .....	27
Other Cost Estimates .....	29
Rights-of-Way .....	30
Equipment .....	30
Stations .....	31
Various Views .....	31
<b>CHAPTER V. FEDERAL AND STATE ASSISTANCE</b> .....	<b>33</b>
Forms of Federal Aid .....	33
State Assistance .....	35
<b>TABLES</b>	
1. Passenger Service on the Middleboro and Cape Cod Lines .....	15
2. Commutation Patterns .....	19
3. Projected Increase in Railroad Patronage in Selected Southeastern Massachusetts Communities .....	20
4. Origin and Place of Employment .....	21
5. Population Projections for Brockton and Vicinity .....	24
6. Projected Growth in Southeastern Massachusetts Communities .....	25
7. DPU and MBTA Project Costs .....	30

# The Commonwealth of Massachusetts

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## LETTER OF TRANSMITTAL TO THE SENATE AND HOUSE OF REPRESENTATIVES

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*To The Honorable Senate and House of Representatives:*

*Ladies and Gentlemen:* — The Legislative Research Council submits herewith a report prepared by the Legislative Research Bureau on the basis of Senate, No. 789 of 1974 relative to the feasibility of providing rail transportation from the city of Boston, through Brockton, to Cape Cod.

Since the Legislative Research Bureau is limited by statute to "statistical research and fact-finding," this report contains no recommendations for legislative action. It does not necessarily reflect the opinions of the undersigned members of the Council.

Respectfully submitted,

MEMBERS OF THE LEGISLATIVE  
RESEARCH COUNCIL

SEN. ANNA P. BUCKLEY of Plymouth  
*Chairman*

REP. JOHN F. COFFEY of West Springfield  
*House Chairman*

SEN. JOSEPH B. WALSH of Suffolk  
SEN. JOHN F. PARKER of Bristol  
SEN. WILLIAM L. SALTONSTALL of Essex  
REP. JAMES L. GRIMALDI of Springfield  
REP. PAUL J. CAVANAUGH of Medford  
REP. RUDY CHMURA of Springfield  
REP. SIDNEY Q. CURTISS of Sheffield  
REP. HARRISON CHADWICK of Winchester  
REP. ALAN PAUL DANOVIATCH of Norwood  
REP. WILLIAM H. RYAN of Haverhill

# **The Commonwealth of Massachusetts**

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## **LETTER OF TRANSMITTAL TO THE LEGISLATIVE RESEARCH COUNCIL**

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*To the Members of the Legislative Research Council:*

*Madam Chairman and Gentlemen:* — Senate, No. 789 of 1974 directed the Legislative Research Council to make a study relative to the feasibility of providing rail transportation from the city of Boston, through Brockton, to Cape Cod.

The Legislative Research Bureau submits herewith a report in accordance with the above directive. Its scope and content are restricted to fact-finding data only, without recommendations or legislative proposals.

This report was the primary responsibility of Helen A. Quigley of the Research Bureau staff.

Respectfully submitted,

**DANIEL M. O'SULLIVAN, *Director***  
**Legislative Research Bureau**

The Commonwealth of Massachusetts

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RAILROAD SERVICE FROM BOSTON TO BROCKTON  
AND CAPE COD

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SUMMARY OF REPORT

*Scope of Report*

This report discusses the feasibility of providing rail passenger service from Boston to Cape Cod *via* the City of Brockton on the Middleboro line of the Penn Central Railroad which makes connection with the line from Providence *via* Taunton to Cape Cod.

*Old Colony Line Operations*

The Old Colony Railroad Corporation was incorporated by a special act of the Massachusetts General Court on March 17, 1822. In 1893, the New York, New Haven and Hartford Railroad Corporation leased the Old Colony system for 99 years. Due to excessive losses, passenger service was abandoned on June 30, 1959. The New Haven Railroad estimated that, in 1958, 14,520 one-way passengers utilized the Old Colony service daily, four percent of whom originated from Cape Cod.

*Commuter Patterns*

The DeLuw, Cather and Company report to the Old Colony Area Transportation Commission in April, 1959 showed that on a typical weekday in 1958 approximately 45,000 persons commuted from the South Shore (Avon, Braintree, Cohasset, Holbrook, Quincy, and Weymouth) to the Boston area — 34,000 or 76 percent arrived by automobile; 7,000 or 16 percent used the New Haven Railroad's Old Colony service and 8 percent used the Eastern Massachusetts Street Railway Company buses which connected with the MTA.

The 1970 federal census indicated that of the 68,044 workers from Randolph, Holbrook, Avon, Brockton, Bridgewater, East Bridgewater, and West Bridgewater, 53,166 use a car to commute, 1,740 use a bus or streetcar, 613 use the subway or railroad. A

total of 9,222 persons from these communities work in the City of Boston and 642 in the remainder of Suffolk County. A total of 971 persons from Middleboro, Rochester, and Wareham work in the Boston Standard Metropolitan Statistical Area (Boston SMSA). Barnstable commuters to the Boston SMSA or to the Brockton SMSA total 986. Auto commuters to the Boston SMSA from Barnstable County total 724.

The MBTA provides one bus route from Avon to a rapid transit station, two from Randolph, four from Holbrook, and two from Brockton. On an average weekday 3,923 persons use the MBTA buses from Brockton to a rapid transit station. Almeida Bus Lines, Inc. services a total of 439 commuters to Boston originating from Hyannis, Wareham, Buzzards Bay, Woods Hole, Middleboro, Bridgewater, and West Bridgewater. The Plymouth and Brockton Street Railway Company services a maximum of 490 peak-hour commuters daily from Hyannis to Boston.

According to an April, 1972 survey of the Metropolitan Area Planning Council, a total of 1,475 persons from Randolph, Holbrook, Avon, Brockton, Braintree, Bridgewater, and East Bridgewater are using the South Shore rapid transit line.

### *Population Statistics*

The populations of Randolph and Holbrook increased 43 percent and 16.5 percent respectively between the years 1960 and 1970. It is estimated that Randolph and Holbrook will increase their populations by 51.8 and 48.3 percent between 1975 and 1990.

The Old Colony Planning Council area (Abington, Avon, Bridgewater, Brockton, East Bridgewater, Easton, Hanson, Halifax, Pembroke, West Bridgewater, and Whitman) had an increase of 66,000 people or 50 percent between 1950 and 1970. According to population projections, the region will grow by 105,000 persons or 58 percent between 1970 and 1990 with the Bridgewaters showing the most significant increases.

Middleboro, Rochester, and Wareham increased their populations 33.8 percent, 33.2 percent, and 51.8 percent respectively between 1950 and 1970. Middleboro is expected to increase its population by 48.5 percent between 1970 and 1990, Rochester by 41.3 percent and Wareham by 53.2 percent.



The population of Barnstable County (114,216) increased 36.5 percent between the years 1960 and 1970 and is expected to increase by 78 percent between 1970 and 1990 and by 224.7 percent between 1970 and 2020.

### *Track Conditions*

The condition of the railroad from South Braintree to Hyannis and Falmouth is considered safe for freight trains but far from adequate for passenger service. Freight trains travel at speeds varying from 5 to 30 mph. In order to upgrade the line, new ties, spot-surfacing, outer-face surfacing, alignment, drainage, and vegetation control will be necessary. The railroad line from Middleboro to Buzzards Bay and the Cape Cod lines have been slated for abandonment in the primary report of the National Railway Association.

### *The Englund Report and Other Estimates*

On February 14, 1974, Mr. Carl R. Englund, Jr., a transportation consultant, submitted a report entitled *Track Conditions on the Penn Central Railroad Between Attleboro and Cape Cod* which he prepared for the Committee on Federal Base Conversion. The study contains cost estimates (not carried beyond June, 1974) for the Cape Cod branches of the Penn Central Railroad and the Middleboro branch from a point near Middleboro (Alden) to Buzzards Bay based on compliance with Federal Railway Administration (FRA) Class 3 standards (freight trains 40 mph maximum; passenger trains 60 mph). The estimates do not reflect the cost of a signal system or major rehabilitation of crossing roadways except for a few special situations.

The report estimates a total cost of \$1,805,000 for 57.8 miles of track from Alden to Buzzards Bay, Buzzards Bay to Falmouth, and Buzzards Bay to Hyannis to refurbish the tracks for passenger service meeting FRA Class 3 standards.

This estimate includes the cost of ties, tie plates and angle bars, brush cutting and drainage, ballast and tamping, trackage and station work, some grade crossing work, and other related costs.

A Massachusetts D.P.U. spokesman estimated an average cost of \$150,000 per rail mile for upgrading a single rail line to imple-

ment first class passenger service at speeds of between 60 and 70 mph. This average cost does not include grade crossings and signals. The MBTA estimates a rate of \$264,000 a mile for all related costs and inflationary trends, not including stations. Based on these approximations, the cost from Boston to Hyannis and Falmouth, 91.9 miles, may reach \$13.6 million (DPU) or \$23.0 million (MBTA).

### *Rights-of-Way, Equipment, and Stations*

Based on the 1972 cost of the right-of-way from South Braintree to Campello purchased by the MBTA for approximately \$131,034 per mile, the cost from Campello to Hyannis and Falmouth would be \$9,211,690.

The current approximate costs are \$125,000 per passenger car and \$300,000 per locomotive for used equipment and \$250,000 per passenger care and \$450,000 per locomotive for new equipment. A fleet of 20 coaches and four locomotives would cost \$2.5 million for used equipment and \$6.8 million for new equipment.

Stations still standing on the line are Holbrook, Avon, Bridgewater, Middleboro, Wareham, Buzzards Bay, Monument Beach, and Falmouth. Platforms in Brockton and Pocassett would require refurbishing. North Falmouth, Sandwich, West Barnstable, Yarmouth, and Hyannis stops would require shelters, platforms, parking facilities, and pay telephones.

### *Various Views*

Legislators, industry representatives, and other spokesmen from the Middleboro area and Cape Cod have expressed their concern over the detrimental economic impact of freight service termination proposed by the National Railway Association. Approximately 2,000 to 3,000 freight cars are needed to accommodate the transfer of merchandise, equipment, and other types of tonnage to and from the area. Substitute service would require the more costly use of 8,000 trucks. Officials are fearful of the impact of such a development on traffic congestion and highway maintenance.

Various Chambers of Commerce on Cape Cod feel that restoration of rail passenger service between Boston and Cape Cod is desirable for both economic and environmental reasons.

Officials of the Penn Central are agreeable to reinstituting service subject to certain conditions.

Peripheral parking lots and express bus lanes along the South-east Expressway was proposed by the South Shore Chamber of Commerce as accomplishing the same objective at a much lower cost with a more flexible schedule. Senator Arthur H. Tobin of Quincy opposes the construction of a terminal facility in either Braintree or Quincy.

### *Federal Aid and State Aid*

The Urban Mass Transportation Act of 1964 provides \$6.1 billion to upgrade, extend, improve, and develop mass transportation systems with loans covering 80 percent of the net cost of the project. Further federal assistance is forthcoming in 1976 when the Federal Aid Highway Act of 1973 will provide \$800 million for transit purposes. Section 403 of the Rail Passenger Service Act of 1970 specifies that any state, regional, or local agency may request the Amtrak Corporation to provide passenger service beyond that included in the Amtrak Corporation's basic system. The state or regional agency must pay at least two-thirds of the losses associated with such service.

The Brockton Regional Transit Authority and the Cape Cod Regional Transit Authority, created by Massachusetts General Law, Chapter 161B, are not authorized to operate any mass transportation facilities directly but they may acquire, hold, manage, or contract for mass transportation facilities and equipment.

The Commonwealth currently subsidizes the total operating deficits of the commuter railroads. Current proposals in the Senate Ways and Means Committee would set aside \$3 million in state funds for rail right-of-way acquisition, grant the state the first option to purchase rights-of-way for sale, and allow the state, a regional transportation authority, city or town to finance a railroad operating at a loss.

## The Commonwealth of Massachusetts

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### RAILROAD SERVICE FROM BOSTON TO BROCKTON AND CAPE COD

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#### CHAPTER I. INTRODUCTION

##### *Origin and Scope of the Report*

This report, submitted in compliance with a legislative order filed by Senator Anna P. Buckley of Brockton, examines the feasibility of providing rail service between Boston and Cape Cod *via* the city of Brockton. The Senator was interested in determining the possible impact of the restoration of such service, in connection with existing MBTA service, on the transportation needs of the city of Brockton and the economic well-being of Cape Cod. The report is mainly concerned with the Middleboro line of the Penn Central Railroad which makes connection with the line from Providence *via* Taunton to the Cape.

The report includes a summary discussion of the former Old Colony Railroad, the New Haven management of the railroad, and present Penn Central ownership. Pertinent data relative to present transportation facilities, population and commuter statistics, present track conditions and cost estimates of refurbishment, and governmental financial aid is also included.

##### *Old Colony Line Operations*

The Old Colony Railroad Corporation was incorporated by a special act of the Massachusetts General Court on March 17, 1822. In 1845, the Old Colony opened its first steam line from Boston to Plymouth. Between 1845 and 1893 the carrier extended its lines in Norfolk and Plymouth Counties, acquired at least ten other railroads and steamship lines serving eastern Massachusetts, and took over the operation of the Boston and Providence Railroad by a

99-year lease in 1888. In 1893, the New York, New Haven and Hartford Railroad Corporation leased the Old Colony system for 99 years. At this time, the Old Colony Railroad earned a net of \$1,857,680 above charges.<sup>1</sup>

The New York, New Haven and Hartford Railroad Corporation (described hereafter in this report as the New Haven Railroad) petitioned for reorganization under Section 77 of the Bankruptcy Act in 1935. In order to establish an equitable and feasible reorganization of the New Haven system a segregation formula was established by the United States District Court, District of Connecticut, to analyze expenses and revenues directly attributable to separate lines within the New Haven system, including the Old Colony Boston Group lines (lines between Boston and Middleboro, Boston and Plymouth, and Boston and Greenbush) and the Old Colony Cape Group lines (lines south of Middleboro, including Cape Cod). Studies based on the segregation formula found that the Old Colony was failing by approximately \$2,500,000 a year.<sup>2</sup>

The New Haven Railroad attempted to disaffirm its lease of the Old Colony in subsequent reorganization plans on the grounds that it was cumbersome. Due to opposition of the *Special Commission to Investigate Transportation Facilities within the Commonwealth* and the finding of the Interstate Commerce Commission that the Old Colony could not operate alone, the Old Colony was included in the final plan of reorganization of the New Haven system in 1944. This plan sold the Old Colony to the New Haven; permitted discontinuance of service if losses on the Boston Group of the Old Colony passenger lines exceeded certain limits; and gave the Commonwealth an option to purchase the Boston-Braintree section for public transit use in the event of abandonment of service by the New Haven Railroad.

The post-war increase in commuting by automobile depressed passenger traffic and revenue on the Old Colony division from 1947 to 1951. An upward trend was experienced from 1952 to 1957. However, a fare increase in late 1957 brought about a substantial

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<sup>1</sup> *Report of the Special Commission to Investigate Railroad Transportation Facilities within the Commonwealth*. House, No. 2150, December 4, 1940, p. 35.

<sup>2</sup> *Ibid.*, p. 32.

reduction in passenger volume. With losses from Old Colony passenger operations substantially exceeding the limits established by the courts and the Interstate Commerce Commission, the New Haven Railroad announced plans on May 13, 1958 to discontinue passenger service as of June 1. Emergency legislation was passed to subsidize the railroad in the amount of \$900,000 for one year. The communities benefiting from Old Colony service were taxed proportionately. The following year the railroad asked for \$1,190,000 to continue service for an additional year. This request was denied by the General Court and as a result passenger service was terminated on June 30, 1959.

The Old Colony division served an average of 10,124 in-bound riders in its final three years of operation.<sup>1</sup> Daily counts conducted by the New Haven Railroad in October 1958 disclosed that typical weekday traffic totaled 14,520 one-way passengers in 1958 as against 21,280 in 1957. Sixty-three percent of the 1958 passengers originated in Braintree, Hingham, Quincy, and Weymouth. The Cape Cod towns accounted for only four percent.<sup>2</sup> For the years 1957 and 1958 respectively the following localities generated an average weekday volume of patronage as indicated by the figures appearing in parentheses: Holbrook (604;358), Montello (107;106), Brockton (641;564), Campello (107;102), Bridgewater (462;405), Middleboro (222;195, Monument Beach to Woods Hole (211;171), and Wareham to Hyannis (565;430).

Old Colony passenger equipment in 1959 included 17 rail diesel (Budd) cars, 96 conventional coaches, and 16 diesel locomotives. The rail diesel cars were used mainly during off-peak hours; the conventional coaches which accommodated approximately 90 passengers were used on peak load runs.

The following Table 1 summarizes New Haven Railroad service on the Middleboro line to Cape Cod prior to termination of the Old Colony service:

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<sup>1</sup> *Commuter Rail Improvement Program: Preliminary Report for Discussion Purposes, 1972-1973.*, p. 3. 6.

<sup>2</sup> *Report of the Old Colony Area Transportation Commission on Plans for Improved Suburban Transit.* De Leuw, Cather and Co., April, 1959, p. 7.

Table 1. *Passenger Service on the Middleboro and Cape Cod Lines*

Station	Northbound 7:30-9:00 A.M.		Southbound 4:30-6:00 P.M.		Northbound 9 A.M.-4:30 P.M.	
	Number of Trains	Average Headway (minutes)	Number of Trains	Average Headway (minutes)	Number of Trains	Average Headway (minutes)
<i>Main Line Trackage</i>						
Atlantic	3	30	2	45	9	50
Norfolk Downs	5	18	3	30	9	50
Wollaston	5	18	3	30	9	50
Quincy	5	18	4	22	10	45
Quincy Adams	4	22	2	45	9	50
Braintree	7	13	6	15	12	37
<i>Middleboro Line</i>						
East Braintree	3	30	3	30	2	225
Brockton	3	30	2	45	4	113
Middleboro	3	30	2	45	1	450
Cape Cod Towns	1	90	1	90	1	450

Source: Report of the Old Colony Area Transportation Commission on Plans for Improved Suburban Transit. DeLeuw, Cather and Co., April, 1959, p. A-3.

The *Commuter Rail Improvement Program Report* of 1972 stated that termination of the Old Colony lines generated the most precipitous passenger losses in the history of Boston commuter rail service.<sup>1</sup> In 1961, officials of the State Department of Public Works reported that "the termination of Old Colony train service resulted in a noticeable increase in traffic congestion on Boston streets and on roads leading to the City from the southeast, particularly the new southeast expressway."<sup>2</sup>

### *Commuter Patterns*

The DeLeuw, Cather and Company report to the Old Colony Area Transportation Commission in April, 1959 showed that on a typical weekday in 1958 approximately 45,000 persons commuted from the South Shore (Avon, Braintree, Cohasset, Holbrook, Quincy, and Weymouth) to the Boston area. More than 34,000 or

<sup>1</sup> The total annual number of New Haven rail passengers using Boston terminals was 11 million in 1958, the last year before abandonment. In 1959, with the Old Colony still operating for the first half of the year (service terminated on June 30, 1959), the count fell to 7.8 million. The next year, with Old Colony traffic gone, the annual passenger count was 4.7 million, down 6.3 million from two years previous or a 57 percent loss.

<sup>2</sup> Legislative Research Bureau, *State Tax and Other Relief for Commuter Railroads*. Senate, No. 535, March, 1961, p. 89.

76% of all commuters used automobiles, about 7,000 or 16% used the New Haven Railroad's Old Colony service and 8% used the Eastern Massachusetts Street Railway Company buses transferring to the MTA Cambridge-Dorchester line at Ashmont and Fields Corner Stations.

At peak hours, approximately 15,000 persons commuted between the two areas — 50% by automobiles, 40% on the Old Colony line, and 10% by transfer from the Eastern Massachusetts Street Railway Company buses to the MTA.

A survey conducted by DeLeuw, Cather and Company, on November 13, 1958, found that a total of approximately 1,800 passengers transferred to buses at Fields Corner Station between 1:00 P.M. and 7:00 P.M., and 1,600 southbound passengers during the same hours from Ashmont Station, a total of 3,400 passengers.

In addition, the Eastern Massachusetts Street Railway Company operated an express bus service from Brockton to Park Square, Boston at a fare of \$1.05 per ride, or ten rides for \$8.60, compared to \$.93 on the railroad, or ten rides for \$6.30.

The Plymouth and Brockton Street Railway Company's regular lines were confined to a main line between Plymouth and the Greyhound Terminal in Boston with six daily trips; a route between Plymouth and Brockton and one or two others. The total number of buses owned at that time was 13.

Other service was provided by the Hudson Bus Line which ran two lines to the MTA Ashmont Station from Rockland and Whitman *via* South Braintree.

### *Past Studies, Recommendations, and Implementation*

A number of studies were conducted to provide a solution to the transportation problems which would be incurred by the inevitable discontinuance of Old Colony passenger service. As early as 1947, the Coolidge Commission predicted the discontinuance of passenger service and recommended that rapid transit be extended to Brockton on the Middleboro line of the Old Colony in coordination with freight service. The report stated that the short haul commuter service of the railroads was a costly and generally unprofitable operation especially with the decline in passenger numbers.

The report of the Old Colony Area Transportation Commission in 1959 recommended the construction of rapid transit over the



existing right-of-way from Boston to South Braintree and to Hingham, stating that extension beyond these points was impracticable at that time. The *Review of the MBTA Master Plan* by R. L. Banks and Associates issued on January 30, 1969 reported that, although there was no present need for rail commuter service in the "Old Colony" area, steps should be taken to maintain the integrity of the entire right-of-way and the South Shore rapid transit project should be so constructed to allow the use of the third track and the Neponset River bridge for rail commuter trains which would run non-stop from South Braintree to Boston, with bus lines acting as rail feeders.

The South Shore communities repeatedly blocked attempts to implement rapid transit because the costs were considered prohibitive, the proposed operating agency — the MTA — was viewed with distrust, and the local bus companies were fearful of the long-term effect on their businesses. However, in 1965 the MBTA purchased the New Haven right-of-way from Boston to South Braintree for \$2.5 million and authorized construction of the South Shore red line. Rail service returned to the South Shore on September 1, 1971 with the opening of the rapid transit line to Quincy Center Station. The line will be extended to South Braintree; however, there is currently controversy over whether further extension should be to Holbrook or to South Weymouth. The MBTA currently owns the right-of-way from South Braintree to Campello on the Middleboro line. The remaining track from Middleboro to Bourne and throughout Cape Cod is owned by the Penn Central.

The following listings outline the present status of the rail line from Boston to Cape Cod.

South Station to South Bay Junction (MBTA South Bay Maintenance Shop)	two railroad tracks
South Bay Junction to the North bank of the Neponset River	two rapid transit tracks and one railroad track
Neponset River	no bridge which could accommodate rail commuter cars
South bank of Neponset River to Quincy Center	two rapid transit tracks and room for one railroad track (no railroad tracks are currently in place)

Quincy Center to South Braintree	two railroad tracks
South Braintree to Buzzards Bay	single railroad track (room for one more railroad track)
Buzzards Bay to Falmouth	single railroad track
Falmouth to Woods Hole	single railroad track has been removed but the Town of Falmouth is currently considering restoring these tracks if service will be restored
Buzzards Bay to Hyannis and Dennis	single track

### *Freight Service*

The New Haven Railroad continued freight service on the Old Colony lines after passenger service was terminated. The Penn Central has also continued freight service since its acquisition of the New Haven lines in 1968. Present freight service consists of two runs Monday through Friday from South Braintree to Middleboro and back; one run Monday, Wednesday, and Friday from Buzzards Bay to Hyannis and Dennis and back; one run Tuesday and Thursday from Buzzards Bay to Falmouth and back; one run Monday through Friday from Middleboro and back; and one run from Providence to South Braintree from 6:00 P.M. until 12:00 P.M. daily except Sunday.

## CHAPTER II. PRESENT TRANSPORTATION SERVICES

### *Introduction*

Statistical data provided in this chapter and the following chapters relates to those cities and towns south of Braintree which would be directly benefited by the restoration of rail service on the Middleboro branch and Cape Cod branches of the Penn Central Railroad. They are based on the premise that passenger service would either be in the form of express service from Braintree to Boston or in connection with the future rapid transit extension to South Braintree. Feeder bus service would provide many more commuters from the outlying cities and towns.

### *Commutation Patterns*

The 1970 federal census estimated that in the Brockton Standard Metropolitan Statistical Area (SMSA) 625 people use the subway, elevated train, or railroad to get to and from work; 1,430 depend on a bus or streetcar and 63,066 use a car to commute.

The following Table 2, based on 1970 federal census, reflects the more common commutation patterns of workers in the respective cities and towns. No data has been inserted relative to people who walk to work, etc. The statistics quoted are based on a 15 percent sample.

The United States Census Bureau publication *Journey to Work* listed a total of 9,754 persons from Brockton working in the Boston Standard Metropolitan Statistical Area<sup>1</sup> (SMSA), 9,328 of whom drive to work.

*Table 2 Commutation Patterns*

City or Town	Total Workers	Destination			Remainder of	
		Auto	Bus or Streetcar	Subway or Railroad	Boston	Suffolk County
Randolph <sup>1</sup>	10,730	8,908	536	353	3,470	190
Holbrook <sup>1</sup>	4,433	3,897	120	55	974	106
Avon <sup>2</sup>	2,057	1,785	100	—	449	44
Brockton <sup>2</sup>	34,792	29,808	909	190	3,702	225
Bridgewater <sup>2</sup>	4,262	3,547	43	15	250	36
East Bridgewater <sup>2</sup>	9,128	2,996	—	—	243	29
West Bridgewater <sup>2</sup>	2,642	2,225	32	—	134	12
Total	68,044	53,166	1,740	613	9,222	642

<sup>1</sup> Boston Standard Metropolitan Statistical Area.

<sup>2</sup> Brockton Standard Metropolitan Statistical Area.

Data compiled by the Southeastern Regional Planning and Economic Development Commission reveals that 646, 39, and 286 persons from Middleboro, Rochester, and Wareham, respectively, worked in the Boston SMSA in 1970. A total of 384 persons from these towns work in Suffolk County.

In the event of the restoration of service, the following Table 3

<sup>1</sup> Suffolk County and selected communities in Plymouth, Norfolk, and Middlesex Counties.

estimates the amount of increased railroad patronage at the level of increases noted in the towns of Carver, Freetown, Kingston, Lakeville, Marion, Middleboro, Plymouth, Plympton, Raynham, Rochester, Taunton, and Wareham.

*Table 3. Projected Increase in Railroad Patronage in Selected Southeastern Massachusetts Communities*

Percentage Increase	1975	1980	1985	1990
1%	85	94	106	117
2	169	189	212	235
5	423	472	531	587
7.5	635	708	796	880
10	846	944	1,061	1,173

Source: Southeastern Regional Planning and Economic Development Commission.

Recent data prepared by the Cape Cod Planning and Economic Development Commission (CCPEDC) reveals that of a total of 34,743 workers in Barnstable County, 29,567 reached their place of employment by automobile, 231 by bus, 76 by subway or railroad, and the remainder by other means, including air transportation. The 1970 federal census estimated a total of 888 persons from Barnstable County working in the Boston SMSA, 724 of whom used an automobile to commute. Of this group 535 persons work in Suffolk County with 407 commuting by car; of those with Suffolk County employment destinations 494 work in the City of Boston, 366 of whom commute by car.

According to CCPEDC data, a total of 88 persons from Barnstable County work in the Brockton SMSA,<sup>1</sup> 48 of whom work in the City of Brockton. This data also indicates that a total of 986 workers from Barnstable County commute either to the Boston or Brockton SMSA. Although this figure does not reflect a great volume, it represents nearly half of the 2,118 Cape residents who work outside Barnstable County. The CCPEDC estimated a conservative total of 12,229 possible commuters during the summer months.

<sup>1</sup> Abington, Avon, Bridgewater, Brockton, East Bridgewater, Easton, Hanson, Stoughton, West Bridgewater, Whitman.

Based on the aforementioned statistical information, a total of 10,783 persons from Randolph, Holbrook, Avon, Brockton, Bridgewater, East Bridgewater, West Bridgewater, Middleboro, Rochester, Wareham, and Barnstable County work in Suffolk County. This total includes only those towns which would be directly affected by restoration of passenger service. The following Table 4 reflects totals of persons working in the Boston SMSA from a wider area of southeastern Massachusetts than previously discussed.

*Table 4. Origin and Place of Employment*

<i>Community</i>	<i>Place of Employment</i>	
	<i>Boston SMSA</i>	<i>Suffolk County</i>
Randolph and Holbrook	12,338 <sup>1</sup>	4,740 <sup>1</sup>
Abington, Avon, Bridgewater, Brockton, East Bridgewater, Easton, Hanson, Halifax, Pembroke, West Bridgewater, and Whitman	22,102 <sup>2</sup>	7,464 <sup>2</sup>
Carver, Freetown, Kingston, Lakeville, Marion, Middleboro, Plymouth, Plympton, Raynham, Rochester, Taunton, and Wareham	4,115 <sup>3</sup>	1,393 <sup>3</sup>
Barnstable County; Barnstable, Brewster, Bourne, Chatham, Dennis, Eastham, Falmouth, Harwich, Mashpee, Orleans, Provincetown, Sandwich, Truro, Wellfleet, and Yarmouth	888 <sup>4</sup>	535 <sup>4</sup>
<b>Total</b>	<b>39,443</b>	<b>14,132</b>

<sup>1</sup> U. S. Dept. of Commerce. Census Tracts, Boston Standard Metropolitan Statistical Area PHC (1)-29.

<sup>2</sup> Old Colony Regional Planning and Economic Development Commission.

<sup>3</sup> Southeastern Regional Planning and Economic Development Commission.

<sup>4</sup> 1970 U. S. Census Bureau, *Journey to Work*.

### *Bus Services*

The MBTA operates two main routes in Randolph, which connect passengers with rapid transit lines. One route runs from Crawford Square to the MBTA rapid transit system at Ashmont Station in Dorchester and another from Crawford Square to Quincy Center Station. The Ashmont Station route is serviced by 25 outbound and 25 inbound buses during the morning peak hours and the Quincy

Center route by 27 outbound and 27 inbound vehicles during the same period. This availability of service exists in the evening peak hours also.

MBTA service to the Town of Avon is represented by a fleet of 30 outbound and 30 inbound buses which operate during the peak hours to and from Ashmont Station.

Four MBTA bus routes in Holbrook dispatch passengers to a rapid transit station. A complement of 24 inbound and outbound buses provide service between Quincy Center Station and (1) Holbrook Square; (2) Holbrook Square *via* Norfolk County Hospital; (3) Brookville Square; and (4) the Brockton-Holbrook line during rush hour periods.

The MBTA operates two main routes between Brockton and Quincy Center and Brockton and Ashmont Station. The Old Colony Regional Planning and Economic Development Commission (OCRPEDC) estimates an average weekday patronage of 1,422 on the Quincy Center line and 2,501 on the Ashmont Station route.

Other service in the area is offered by (1) the Interstate Coach which serves 200 commuters on one route between Brockton and the Stoughton station of the Penn Central Railroad and (2) the Brush Hill Transportation Company which started a Brockton-Boston run on March 1, 1974.

The Plymouth and Brockton Street Railway Company provides an express service between Hyannis and Boston. Between the hours of 5:30 a.m. and 9:00 a.m., ten buses are dispatched from Hyannis to Boston and between the hours of 4:00 p.m. and 6:00 p.m. seven buses return from Boston to Hyannis. The Plymouth and Brockton does not have exact passenger counts but since each bus carries a maximum of 49 passengers, the company serves a maximum of 490 passengers during the morning peak hours and a maximum of 343 passengers during the evening hours. The Plymouth and Brockton Street Railway Company operates extra runs during the summer months.

Service to Cape Cod is furnished mainly by Almeida Bus Lines, Inc., which serves 61 commuters on its express run from Hyannis to Boston. Ninety-eight commuters are served daily in Wareham,

Buzzards Bay, and Woods Hole by an express run to Boston and 280 commuters are served daily in Middleboro, Bridgewater, and West Bridgewater by another run to Boston. Passenger service increases about 60 to 70 percent in the summer months.

Cape Cod Bus Lines, Inc. provides service on Cape Cod between Hyannis and Provincetown.

Two commuter parking lots, one for 53 cars in Sagamore and the other for 100 cars in West Barnstable, which were provided by the Massachusetts Department of Public Works in 1973 for bus passengers to Boston, have proved very popular and each is to be expanded in the near future to provide parking for a total of 420 cars.

### *Rapid Transit*

According to an April, 1972 survey of the Metropolitan Area Planning Council, 133 persons from Randolph, 156 from Holbrook, 10 from Avon, 178 from Brockton, 953 from Braintree, 28 from Bridgewater, and 17 from East Bridgewater are using the South Shore rapid transit line. It is safe to assume that these figures have increased in the past two years based on the increase in patronage generally on this line and the current energy situation.

## CHAPTER III. AREA POPULATION AND PROJECTIONS

Between the years 1960 and 1970 the Towns of Randolph and Holbrook increased their population 43 percent and 16.5 percent, respectively. According to Metropolitan Area Planning Council projections, growth between the years 1975 and 1990 will be 51.8 percent for Randolph and 48.3 percent for Holbrook.

The Town of Avon's population growth is expected to be substantially slower between the years 1970 and 1990 than was experienced between 1950 and 1970. During the same period, it is estimated that Brockton will continue to grow at the same rate and that Bridgewater, East Bridgewater, and West Bridgewater will grow substantially faster.

*Table 5. Population Projections for Brockton and Vicinity**Population and Percentage Change*

Community	1950	1960	1970	1950-1970
Avon	2,666	4,301 (61.3%)	5,295 (23.1%)	(98.6%)
Brockton	62,860	72,813 (15.8)	89,040 (22.3)	(41.6)
E. Bridgewater	4,412	6,139 (39.1)	8,347 (36.0)	(89.2)
Bridgewater	9,512	10,276 ( 8.0)	11,829 (15.1)	(24.4)
W. Bridgewater	4,059	5,061 (24.7)	7,152 (41.3)	(76.2)
		1980	1990	1970-1990
Avon		5,734 (8%)	5,640 (-2%)	(6%)
Brockton		115,158 (29)	124,362 (8 )	(39)
E. Bridgewater		11,946 (43)	16,920 (42)	(103)
Bridgewater		17,918 (51)	22,878 (27)	(93)
W. Bridgewater		10,273 (44)	16,920 (65)	(137)

As the table illustrates, the degree of growth will be more pronounced in Bridgewater, East Bridgewater and West Bridgewater. The Old Colony Planning Council (OCPC) indicates that if a continuing gasoline shortage results in gas rationing or substantially higher prices, commuting costs from the southern part of the OCPC region<sup>1</sup> to Boston may be prohibitive. This factor may pose a significant deterrent to population growth in the OCPC area.

The entire OCPC area had an increase of 66,000 people or 59 percent between 1950 and 1970. Every community except Bridgewater increased its population by more than 50 percent during this period. Pembroke and Hanson increased their populations by significant percentages of 334 to 117, respectively. According to OCPC population projections, the region will grow by 105,000 persons or 58 percent between 1970 and 1990.

The Towns of Middleboro, Rochester and Wareham increased their populations 33.8 percent, 33.2 percent and 51.8 percent, respectively, between 1950 and 1970. The following Table 6, prepared by the Southeastern Regional Planning and Economic Development Commission, outlines projected growth in selected municipalities of southeastern Massachusetts.

<sup>1</sup> Abington, Avon, Bridgewater, Brockton, East Bridgewater, Easton, Hanson, Halifax, Pembroke, West Bridgewater and Whitman.



*Table 6. Projected Growth in Southeastern Mass. Communities*

Municipality	Population	Projected Growth	
	1970	1980	1990
Carver	2,420	3,300	4,300
Freetown	4,270	5,700	6,900
Kingston	5,999	8,600	11,400
Lakeville	4,376	5,800	7,300
Marion	3,466	4,500	5,600
Middleboro <sup>1</sup>	13,607	16,700	20,200
Plymouth	18,606	24,800	31,600
Plympton	1,224	1,700	2,200
Raynham	6,705	10,300	14,200
Rochester <sup>1</sup>	1,770	2,100	2,500
Taunton	43,756	48,600	53,600
Wareham <sup>1</sup>	11,492	14,400	17,600
Totals	117,691	146,500	177,400

<sup>1</sup>Towns through which railroad line passes directly.

Table 6 reflects a total growth for the specified area of 50.7 percent between the years 1970 and 1990.

Percentages based on data compiled in the *Southeastern New England Study of Water and Related Land Resources* by the New England River Basin Commission, March, 1973 indicate a 36.5 percent increase in the population of Barnstable County between 1960 and 1970. Projected population growth in Barnstable County between 1970 and 1990 and 1970 and 2020 is 78 percent and 224.7 percent, respectively. The Town of Sandwich is expected to show the most substantial population increase between 1970 and 2020, an increase of 567 percent from a 1970 population of 5,239 to an estimated 2020 population of 35,000.

Recent census tabulations record the population of the county at 114,216 persons. Vacationers during the summer months in 1973 raised that figure to approximately 442,000 people.

#### CHAPTER IV. PHYSICAL PLANT AND EQUIPMENT COSTS

##### *Track Conditions*

The condition of the railroad tracks from South Braintree to

Hyannis and Falmouth is considered safe for freight trains but far from adequate for passenger service. Freight trains, which proceed at slower speeds than passenger trains due to the heavy tonnage, travel daily at speeds varying from 15 to 30 mph on a single track from South Braintree to Middleboro and from 5 to 30 mph on a single track from Middleboro to Buzzards Bay. The entire line from South Braintree to Buzzards Bay is mainly composed of 107, 115 or 131 pound rail which are 33 to 39 feet (some welded), good gauge, 8 to 12 rail anchors per length of rail, good tie plates, 4 and 6 hole joint bars, an average of 22 ties per rail, and mostly stone ballasts which provide drainage and a smooth ride.

A Central Traffic Control signal system operated from the South Station controls the movement of trains from Brockton to Middleboro.<sup>1</sup> Trackage from Middleboro to Buzzards Bay which presently has a manual block signal system would either require a new signal system or a block system with station operators who must have written orders. In order to upgrade this entire rail line, three to eight ties per rail length is needed in some areas, depending upon individual conditions; elevating small sections of track (spot-surfacing) and elevating larger sections of track (outer-face surfacing) is necessary. Department of Public Utilities officials indicate that the tracks also need some alignment in addition to drainage and vegetation control especially at the Union Street crossing in Avon and the Summer Street overhead bridge.

The recently formed National Railway Association has slated the freight lines from Middleboro to South Dennis, Hyannis and Falmouth for abandonment in their primary report. However a final decision will not be reached until 1976.

The right-of-way through Dennis, Harwich, Brewster, Orleans, and Eastham is currently being considered for use as a bicycle path by the State Department of Natural Resources. However, no rights-of-way can be sold by a railroad until the final plan of the National Association is decided. Land adjacent to rights-of-way may be sold.

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<sup>1</sup> According to Mr. Frederick Dumaine former President of New Haven Railroad, the Central Traffic Control signal system is the safest type. Traffic can be stopped on a single track with by-pass track, for opposite traffic. This system increases single track operations by 50 percent.

*The Englund Report*

On February 14, 1974, Mr. Carl R. Englund, Jr., a transportation consultant, submitted a report entitled *Track Conditions on the Penn Central Railroad Between Attleboro and Cape Cod Points* which he prepared for the Committee on Federal Base Conversion. The study contains cost estimates (not carried beyond June, 1974) for the Cape Cod branches of the Penn Central Railroad and the Middleboro branch from a point near Middleboro to Buzzards Bay based on compliance with Federal Railroad Administration (FRA) Class 3 standards (freight trains 40 mph maximum; passenger trains 60 mph). Trains cannot exceed 50 mph on track that is signaled by the manual block system. The report observed that the nature of rail wear on the trackage under consideration, particularly in regard to battering and kinking of rail ends, is such that it would be uneconomic to attempt either to resurface the track or subsequently to attempt to maintain it for operating speeds in excess of 60 mph unless very substantial rail segments were completely renewed.

Present Penn Central standards allow a maximum speed of 50 mph on manual block trackage. The installation of a signal system for high-speed passenger operations would entail annual maintenance costs to keep the kinked rail ends in proper gauge and alignment<sup>1</sup> and substantial relaying of rail at a cost in excess of \$70,000 per track mile. The signal system would require a further outlay of \$50,000 per mile. These cost estimates do not reflect major rehabilitation of crossing roadways except for a few special situations. The estimates for installation of cross ties reflect higher unit costs since the Penn Central lacks sufficient trained men to man the size of extra gang required and also lacks vital work equipment.

The report cites a total estimate of \$2,410,000 for 78 miles of track, 57.8 miles of which would be used for passenger service from Boston to Cape Cod *via* Brockton. A more detailed sprucing up of facilities could add another million dollars.

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<sup>1</sup> These costs would spiral as speeds are lifted above the 55-60 range.

From Alden<sup>1</sup> to Buzzards Bay, a distance of 20.4 miles, the freight speed limit is 30 mph except for three segments totalling seven miles which are restricted to eight mph because of failure to meet Class 1 FRA track standards. Signals have been removed and the former double track has been converted to a single track. In the first 12 miles between Alden and Wareham, there are three public grade crossings and four one-degree curves. A major tie removal program has not been conducted for 12 to 15 years.<sup>2</sup> The general condition of the track between Wareham and Buzzards Bay, approximately 5-1/2 miles, is poorer than that prevailing over the initial 14 plus miles of the route. Rearrangement of track approaches at the Buzzards Bay station plus relaying of one or more station tracks is considered essential for restoration of passenger service. The Englund report estimated a total of \$636,000 to refurbish the tracks along this route segment for passenger service meeting FRA Class 3 standards. This estimate includes the costs of ties (\$489,600), tie plates and angle bars (\$19,000), brush cutting and drainage (\$12,240), ballast and tamping (\$61,200), trackage and station work at Buzzards Bay (\$50,000), clean up facilities at Wareham (\$1,960) and other related costs (\$2,000). The condition of the draw span over the Cape Cod Canal is considered to be excellent.

From Buzzards Bay to Falmouth, a distance of 13.8 miles, freight trains operate between speeds of 8 to 30 mph on a single track with a manual block signal system. The curvature along this route is minor but the 10 public grade crossings plus numerous private crossings and beach paths make high speed passenger or freight service impracticable. Cost estimates for this segment are \$128,520 for ties, \$27,000 for ballast and tamping, \$6,750 for brush cutting and drainage, \$15,000 for station, shelter and platform rehabilitation and \$4,730 for other related costs; a total of \$182,000.

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<sup>1</sup> Alden is a point on a branch line from the Attleboro railroad line to the Middleboro line and is in close proximity to Middleboro. The Cape Cod lines begin where this branch line from Attleboro and the Middleboro line meets at Pilgrim.

<sup>2</sup> Ties should be changed annually on an average of a 30 year life. There are approximately 3,000 ties per mile.

The route segment from Buzzards Bay to Hyannis, 23.6 miles, is single track with a manual block signal system. The allowed speed limit for freights is 30 mph except for four segments totalling six miles which are restricted to 8 mph because of failure to meet FRA Class 1 track standards. There are 24 grade crossings and about 30 curves, most of which are not too severe except at the Cape Cod Bridge and at Yarmouth. Mr. Englund indicated that this route segment would require the most extensive rehabilitation work per mile, if passenger train service is to be restored. The cost of rehabilitation for passenger service in this sector is projected at \$987,000. This estimate includes \$603,200 for ties, \$210,000 to relay 3 miles of rail, \$12,600 for brush cutting and drainage, \$18,000 for tie plates and angle bars (renewals), \$58,250 for ballast and tamping, \$25,000 to adjust grade crossings, \$20,000 to adjust grade crossing warning circuits as needed, \$35,000 for station, shelter and platform rehabilitation and \$4,950 for other related costs.

The aforementioned estimates indicate a total cost of \$1,805,000 for 57.8 miles of track from Alden to Buzzards Bay, Buzzards Bay to Falmouth and Buzzards Bay to Hyannis which would allow passenger service meeting FRA Class 3 standards.

#### *Other Cost Estimates*

A Massachusetts DPU spokesman estimated an average cost of \$150,000 per rail mile for upgrading a single rail line to implement first class passenger service at speeds of between 60 and 70 mph. This average cost does not include grade crossings and signals.

The MBTA estimates a rate of \$264,000 per mile which includes upgrading of tracks, signals, grade crossings, possible inflationary trends and other related costs but not including stations for a first class passenger operation. It should be noted that these estimates reflect much more extensive upgrading of tracks than was recommended in the Englund Report.

The following table outlines the costs per route segment based on the estimates provided by the DPU and the MBTA.

*Table 7. DPU and MBTA Project Costs*

Route Segment	Mileage <sup>1</sup>	DPU (\$150,000 per mile)	MBTA ~ (\$264,000 per mile)
Boston to South Braintree	11.4 miles	\$1.7	\$1.8 <sup>2</sup>
South Braintree to Campello <sup>3</sup>	10.2 miles	1.5	2.7
Campello to Buzzards Bay	33.0 miles	4.9	8.7
Buzzards Bay to Hyannis	23.5 miles	3.5	6.2
Buzzards Bay to Falmouth	13.8 miles	2.0	3.6
Total	91.9 miles	\$13.6	\$23.0

<sup>1</sup> MBTA.

<sup>2</sup> This estimate includes the cost of constructing a new rail line (\$158,000) from the south bank of the Neponset River to Quincy Center but not including the cost of a bridge over the Neponset River.

<sup>3</sup> Campello is a former station site in Brockton and the point to which the MBTA owns the right-of-way.

### *Rights-of-Way*

Based on the 1972 costs of the rights-of-way from South Braintree to Campello purchased by the MBTA for approximately \$131,034 per mile, the cost from Campello to Buzzards Bay (33 miles) would be \$4,324,122; from Buzzards Bay to Falmouth (13.8 miles), \$1,808,269; and from Buzzards Bay to Hyannis (23.5 miles) \$3,079,299, or a total of \$9,211,690.

The MBTA purchased a total of 145 miles of railroad rights-of-way with a \$19 million federal grant.

### *Equipment*

Used passenger equipment is currently extremely difficult to come by due to the energy crisis. Chicago, New York, New Jersey, Philadelphia, Amtrak and the MBTA have been searching unsuccessfully for used equipment. Present commuter lines in Massachusetts barely have enough equipment for their own lines and would be unable to sacrifice equipment to a new commuter line. During the summer months, when patronage decreases on many commuter lines, equipment could be borrowed to provide service to Cape Cod vacationers and summer commuters. New equipment entails a wait of at least two years for delivery.

The current approximate costs are \$125,000 per passenger car and \$300,000 per locomotive for used equipment and \$250,000 per

passenger car and \$450,000 per locomotive for new equipment. Twenty coaches, each seating 95 passengers and four locomotives could adequately accommodate 1,800 passengers during the peak hours. On this basis, the purchase of used equipment would require an outlay of \$2.5 million and new rolling stock \$6.8 million.

### *Stations*

In the northern sector of the area in which service would be restored there are stations in Holbrook, Avon, Bridgewater and Middleboro and a platform area in Brockton which would require refurbishing. The construction of new stations and parking facilities at five locations on the Boston and Maine Railroad has been recently estimated at \$7.3 million or about \$1.45 million each, not including land acquisition. Three similar sites on the Penn Central were estimated at \$3.5 million.<sup>1</sup>

Mr. William V. Brady, president of J and V Construction Company, has offered to donate approximately 5 acres of land zoned for industry in Holbrook for a station site if the MBTA will extend the Quincy rapid transit line to Holbrook or Brockton. A station constructed on this site would serve Randolph, Holbrook, Avon, and the northern section of Brockton. Plans are currently underway for a multilevel garage near the old railroad depot in Brockton.

*The Englund Report* stated that station buildings are standing at Wareham, Buzzards Bay, Monument Beach and Falmouth. The Falmouth station is now owned by the town and used as a bus depot. Platform construction would not be required at the foregoing stations. All other stops, namely Pocasset (has platform), North Falmouth, Sandwich, West Barnstable, Yarmouth and Hyannis, would require shelters, platforms, parking, pay telephones plus at Hyannis some sort of direct communication setup with the railroad operator. Cost of these improvements has been estimated at \$101,960.

The Penn Central Railroad is currently negotiating the sale of the Sandwich station.

### *Various Views*

Spokesmen from the Middleborough area and Cape Cod have expressed their concern over the fate of industry in this area if

<sup>1</sup> Commuter Rail Improvement Program Report, 1972, p. 66.

freight service is discontinued by the National Railway Association. According to Representative Richard E. Kendall of Falmouth, the elimination of 2,000 to 3,000 railroad cars per year would require 8,000 round trip trucks to handle the tonnage and result in at least a 10 percent increase in cost to the consuming public. One company in Representative Kendall's district which employs 250 persons and plans on expanding its employment to 350 persons would leave the Cape if freight service were discontinued since the cost of transporting goods by truck would be four times the present cost. Representative Peter Y. Flynn of Bridgewater also stressed the importance of retention of the essential freight service. Officers of Southeast Regional Planning and Economic Development Commission and the Cape Cod Planning and Economic Development Commission emphasized that the retention of freight service is of vital economic impact and importance to the region. In addition to higher tariffs, truck transportation would contribute to traffic congestion and higher highway maintenance costs.

Both the Bourne Chamber of Commerce and the Falmouth Chamber of Commerce feel that, even if the "energy crisis" had not materialized, restoration of rail passenger service between Boston and Cape Cod is desirable for both economic and environmental reasons.

The Cape Cod Chamber of Commerce pointed out that although there is excellent bus service between Boston and Cape Cod, with good equipment and dependable service, the railroad could compare most favorably in providing commuter service, as well as particularly important week-end vacationer transportation services. The restoration of rail service to the Cape has sparked only slight opposition. Peripheral parking lots at key Southeast Expressway entrances and express bus lanes along the Southeast Expressway (especially inside Route 128) was proposed by the South Shore Chamber of Commerce as accomplishing the same objective at a much lower cost with a more flexible schedule.

Senator Arthur H. Tobin of Quincy does not oppose the re-opening of train service but strongly opposes a terminal in either Quincy or Braintree which would intensify the traffic problems created by the South Shore rapid transit line.

Penn Central spokesman, Mr. Raymond Chace, favors renewing passenger service to Buzzards Bay only and providing a large park-



ing area and feeder buses. The Penn Central would be willing to operate passenger service if the State or other public agency assumed capitalization costs and operating deficits.

A survey of over 600 persons conducted by the Town Manager of Middleboro disclosed that all persons surveyed feel service should be re-established, at least to Middleboro, and that one out of two persons would use such service.

## CHAPTER V. FEDERAL AND STATE FINANCIAL ASSISTANCE

### *Forms of Federal Aid*

The Urban Mass Transportation Act of 1964 provides \$6.1 billion to upgrade, extend, improve, and develop bus, rapid transit, and commuter rail systems across the nation. Under this legislation, the Urban Mass Transportation Administration (UMTA) may underwrite 80 percent of the cost of local transportation capital improvements, including the purchase of buses, rail transit cars, and commuter stations. The balance of 20 percent must come from state or local financing, or both. Local and regional transit improvements must be in keeping with comprehensive transportation plans and prudent land use.

The Secretary of Transportation is authorized to make loans to states or local public bodies and agencies thereof to finance the acquisition of real property and interests in real property for use as rights-of-way, station sites, and related purposes for urban mass transportation systems, including the net cost of property management and relocation payments.

No financial assistance shall be provided for the purchase of or interest in competition with, or supplementary to, an existing mass transportation company unless they are essential to the program, provide for participation of the private carrier, or offer just and adequate compensation to such companies for purchase of their franchises or property.

Statutory requirements for planning and for federal, state, and local review and comment applicable to federally assisted mass transportation projects are contained in the following laws: (1) Urban Mass Transportation Act of 1964, Sections 3(a) and (d), 4(a), 5, and 14(a); (2) Demonstration Cities and Metropolitan

Development Act of 1966, Section 204; (3) Intergovernmental Cooperation Act of 1968, Section 401; and (4) National Environmental Policy Act of 1969, Section 102(2) (c).

The Federal Aid Highway Act of 1970 authorizes the use of funds for the acquisition and construction of fringe parking facilities if adequate public transportation service is made available for persons using such facilities. The maximum allowable federal share is 70 percent.

Further federal assistance is forthcoming as the result of a modification of a long-standing congressional position with respect to the type of disbursement from the Highway Trust Fund. The Federal Aid Highway Act of 1973 earmarks urban system capital funds (authorized \$780 million in fiscal year 1974, \$800 million in fiscal year 1975, and \$800 million in fiscal year 1976) for transit purposes in 1976, including fixed rail facilities and rolling stock. The funds will be apportioned to urbanized areas on a population basis which assures "fair and equitable" treatment of places of over 200,000 population under a formula devised by the state with the approval of the Federal Department of Transportation.

The Act makes two principal changes: it permits the urban system authorization to be used for both rail and bus transit; and it opens all federal aid highway funds (i.e., for suburban and rural systems) to finance exclusive lanes, traffic control devices, bus shelters, parking facilities, etc.<sup>1</sup> Funds used for transit purposes would be in substitution for funds for a highway project and as a supplement to funds provided under the Urban Mass Transportation Act of 1964.

Metropolitan agencies designated by the state to carry out the comprehensive transportation planning process in urbanized areas of over 50,000 would be entitled to one-half of one percent of all apportioned highway funds.

In recent years Congress has addressed itself to the fiscal plight of the nation's railroads and legislated several forms of remedies. Thus under Section 403 of the Rail Passenger Service Act of 1970, any state, regional or local agency may request the Amtrak Corporation to provide rail passenger service beyond that included in

<sup>1</sup> Since 1970, only those funds for the urban highway system, interstate system, and urban extensions of primary and secondary roads were available for these purposes.

the Amtrak Corporation's basic system. The state, regional or local agency is required to pay no less than two-thirds of any losses associated with such service but no more than the solely related costs and associated capital costs, including interest on passenger equipment, less revenue attributable to such service.

An amendment to Section 403 in 1972 states that service can be initiated where the Corporation, based on its own or available marketing studies or other information, determines that experimental or expanded service would be justified. A further 1973 change in Section 403 directs the Amtrak Corporation to initiate not less than one experimental route each year for a two-year period. Thereafter the Secretary of Transportation will decide if continuance of service is warranted.

Presidential proposals currently being debated in the Congress would provide (a) \$2 billion of federal loan guaranties to upgrade track and equipment and (b) \$16 billion for a six-year mass transit program. These funds could be used in a variety of transportation projects and eventually in combination with highway funds.

### *State Assistance*

Of the communities which would be serviced by the restoration of rail transportation, only Braintree, Randolph and Holbrook are in the MBTA district. The remainder of the communities on the railroad line, except Middleboro, Rochester, and Wareham, lie within either the Brockton Regional Transit Authority<sup>1</sup> or the Cape Cod Regional Transit Authority.<sup>2</sup> The regional transit authorities, created by Massachusetts General Laws, Chapter 161B, are not authorized to operate any mass transportation facilities directly but they may hold and manage mass transportation facilities acquired, enter into agreements with other parties for the construction, operation, and use of mass transportation facilities; or for the acquisition of any mass transportation facility which is solely or partly within the authority's district, establish parking facilities at or near authority's terminals, accept federal and state grants-in-aid and loans, provide mass transportation service under contract in communities outside the authority's area, provide for construction,

<sup>1</sup> Abington, Avon, Bridgewater, Brockton, East Bridgewater, Easton, Hanson, Stoughton, West Bridgewater, and Whitman.

<sup>2</sup> Barnstable, Bourne, Brewster, Chatham, Dennis, Eastham, Harwich, Mashpee, Orleans, Provincetown, Sandwich, Truro, Welfleet, and Yarmouth.

extension, and modification or improvement of mass transportation facilities, and issue bonds, notes, and other evidences of indebtedness. The authorities may also establish separate units of mass transportation facilities on a self-liquidating basis.

The Commonwealth, acting through the Executive Office of Transportation and Construction, will pay 50 percent of the net cost of service incurred by an authority. The Brockton Regional Transit Authority will receive \$1,446,385 and the Cape Cod Regional Transit Authority \$737,284 upon activation. If the regional transit authorities have not been created within three years of the passage of the Act (Massachusetts G. L. c. 161B, effective March 5, 1974) or the funds allocated not committed within five years, the funds will be distributed to other regional transit authorities. Master plans developed by the authorities must be approved by the Executive Office of Transportation and Construction.

Municipalities contiguous with a regional transit authority may opt to join the authority or contract for service.

Senate, No. 376, currently in the Senate Ways and Means Committee, would set aside \$3 million in state funds for the purchase of railroad rights-of-way by the Executive Office of Transportation and Construction. A proposal (Senate, No. 377) to grant the Executive Office of Transportation and Construction the first option on the purchase of railroad rights-of-way for sale in the Commonwealth is also being considered by that committee. These proposals are especially significant since the National Railway Corporation in its primary report has slated for abandonment the railroad line from Middleboro to Buzzards Bay and throughout Cape Cod. Finally, House, No. 1144 of 1974 proposes state, regional transportation authority, city or town financing for the continued operation of railroads operating at a loss when reduction of the avoidable costs exceed probable loss from abandonment during a five-year period. This proposal is currently in the Senate Ways and Means Committee.

In order to establish fares which would attract commuters, an operating subsidy may be necessary. The Boston & Maine Railroad is currently subsidized at the rate of approximately \$1.00 per passenger and the Penn Central at approximately \$2.00 per passenger. Terminal costs within the MBTA district are prorated between the

railroads using the facilities on the basis of car entries. The MBTA Advisory Board now has the power to authorize 100 percent funding for subsidization of terminal facilities.

The total operating deficits of the commuter railroads in Massachusetts are paid by the Commonwealth, through the MBTA, from the state cigarette tax revenue.

The Joint Legislative Committee on Transportation is said to be favorably disposed to a pending proposal which will incorporate the commuter railroads into the MBTA express service, without enlarging the MBTA district. Operating deficits will be underwritten by the state cigarette tax (50 percent) and by the real property owners within the MBTA district (50 percent).

T20 M

Mass. Legis. Research Counc.

T20 M Railroad service from Bos.to  
M Brockton, & Cape Cod.



